

Appl. No. 09/ 249,463  
Amtd. Dated September 6, 2005  
Response to Office Action mailed April 6, 2004

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of driving a solid-state imaging device comprising the steps of:  
mixing signal charges of pixels that are separated from each other in the horizontal direction of a common row, wherein the signal charges are transferred to a horizontal register from a vertical register and the mixing occurs within said horizontal register; and  
transferring said mixed signal charge in the horizontal direction, wherein the mixed signal is comprised of signal charges that are originally generated by pixels separated by at least one intervening pixel in the row whose signal charge is not included in the mixed signal  
further comprising inserting between groups of signal charges from a first row, a mixed signal from charges of non-adjacent pixels in a row above.
2. (Previously Presented) A method of driving a solid-state imaging device as claimed in claim 1, further comprising, after said signal charges of pixels distant from each other on said one row are separately transferred from said vertical register to said horizontal register and one signal charge is transferred to said horizontal register, said one signal charge is transferred within said horizontal register and the other signal charge is transferred to said horizontal register, in which said signal charges are mixed.
3. (Previously Presented) A method of driving a solid-state imaging device as claimed in claim 2, further comprising, when said signal charges of pixels distant from each other on said one row are transferred from said vertical register to said horizontal register, said signal charges are transferred at every said vertical register.

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4. (Previously Presented) A method of driving a solid-state imaging device as claimed in claim 1, wherein that said pixel has a color filter thereon and pixels distant from each other on said one row are same in color.

5. Canceled

6. (Currently Amended) A camera comprising:

a solid-state imaging device which has a two-dimensional pixel array provided with a photo-electric conversion unit for photo-electric converting incident light to a signal charge and a vertical register for transferring said signal charge or a vertical register having a photo-electric conversion function for transferring a signal charge and a horizontal register for receiving and transferring said signal charge transferred by said vertical register,

said camera operating in a first mode in which signal charge of pixels separated from each other in the horizontal direction of a common row are transferred from said vertical register and to said horizontal register and are mixed within said horizontal register, said mixed signal charge is transferred in a horizontal direction and output,

such that the mixed signal is comprised of signal charges that are originally generated by pixels separated by at least one intervening pixel in the row whose signal charge is not included in the mixed signal, and said camera operating in a second mode in which said register charges are separately transferred in a horizontal direction as a signal charge of each pixel without being mixed within said horizontal register, said first and second modes being switchable,

and further wherein the horizontal register in the first mode operates such that a mixed signal of charges from non-adjacent pixels of a row above are located between groups of signal charges from a first row.

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7. (Original) A camera as claimed in claim 6, wherein said first mode is such that said signal charges of pixels distant from each other on one row are transferred separately from said vertical register to said horizontal register, after one signal charge is transferred to said horizontal register, it is transferred within said horizontal register, the other signal charge is transferred to said horizontal register, and said signal charges are mixed.

8. (Previously Presented) A camera as claimed in claim 7, wherein in said first mode, when said signal charges of pixels distant from each other are transferred from said vertical register to said horizontal register, said signal charges are transferred at every vertical register of adjacent constant columns.

9. (Original) A camera as claimed in claim 6, wherein said pixel has a color filter thereon and pixels distant from each other on said one row are same in color.

10. (Previously Presented) A camera as claimed in claim 6, wherein said solid-state imaging device has a transfer gate unit between said vertical register and said horizontal register and transfer electrodes of first and second phases, of said transfer gate unit, are alternately disposed at every constant column of said vertical register.

11. Canceled

12. Canceled